

## FOCUSED BEAM CUTTING OF MATERIALS

### ABSTRACT OF THE DISCLOSURE

Methods are disclosed for producing a prosthesis by at least partially cutting a material segment with a beam. The cutting is preferably controlled by a process control unit to cut the material segment along a pattern to generate a target image and size. In some embodiments, the material segment includes a tissue segment separated from an organism. An apparatus for cutting tissue comprises a tissue segment, a support platform, a beam generator and a process control unit. The beam generator is oriented to direct a beam at the tissue segment supported by the support platform. The process control unit is operably connected to the support platform. The improved cutting approaches can be used in the formation of heart valve prostheses.